

The Level of Realizing Geographical Skills in Geography Lessons

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Abstract

Learning geography for an individual starts with the relationship between human and location. This relationship develops depending on gaining some skills which are necessary for understanding and using the geographical location as effective as possible. One of the main goals of high school geography education is to enable individuals to gain skills which will increase their spatial perceptions. This geography curriculum whose main elements are skills, concepts, values, and attitudes and which has also been used since 2005 has been prepared according to this aim. Thus, availability of geographical skills exclusive to geography lessons shows that. The aim of this research is to study realization levels of geographical skills which are eight in total. Therefore, realization levels of the skills 9th and 12th grade students gained in geography lessons have been detected and compared to each other. For that reason, a scale developed by the researcher was conducted to the 9th and 12th grade students and the results have statistically been discussed. According to available results, it has been found out that skills realization level of 9th grade students is rather low and 12th grade students' realization level developed dramatically. However, some skills have developed in 9th grade or 12th grade as acquisition belonging to the lesson is unequal. Within the framework of the findings of the study, it has been suggested that in order to increase the realization level of geographical skills, "skill-based" activities which will be a guide to the teachers during the learning-teaching process should be focused. Besides, it should be noted that, in order to stop unequal skill developments, the acquisitions in which each skill is represented in each grade in the educational program.

Key Words

Geography Education, Skill Education, Geographic Skill, Student-Centered Education.

The main issue of geography science, which studies physical, human and economic events of the whole or partial earth, comprises of the relationship of human and location. There is geography wherever human is and human being has had relationship with environment since they were sent to the world (Özey, 2010, p. 1). To develop these relationships effectively for the benefit of environment and hu-

man, developed geographical skill of individuals have a significant role. In formal education, geography education is applied through planned programs. The programs have not always progressed in the same way, there have been changes sometimes and they were updated depending on innovations. Thus, in 2005, there have been extensive changes in Geography Teaching Program (GTP) and a constructivist-based program aiming active learning was prepared.

GTP (Millî Eğitim Bakanlığı [MEB], 2005), in addition to changing old geographical view, has created that the subjects are learned by the students, not taught by the teachers. GTP approach comprises of a new approach in geography education via active learning philosophy in view of learning-teaching processes, assessment-evaluation methods, and the role of the learner. New philosophy aims at making the student active and leading them to apply

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some certain skills. In this respect, GDP cares for constructivism in the view of student-oriented approaches, that is, active learning and theoretical basics. Teacher has the role of guide, master, and their leader role instead of lecturer. Thus, the coursebooks reflect the basic properties of this philosophy (MEB, 2007-2008; Özey, Demirci, Ünlü, & Çomak, 2006). Basic elements of GTP are Skills, Concepts, Values, and Attitudes. When the program is examined, an approach focusing on learning and activities rather than teaching, foreseeing an educational philosophy which aims gaining skills for that, including an alternative evaluation-assessment methods, empowering collaboration with main and sub-fields, and reflecting unique/thematic views based on constructivism can be observed.

It is observed that the skills defined as the abilities to be acquired and developed during educational process are valid for the other secondary school lessons. According to geography education, skill is, in suitable educational situation and according to his/her preparedness level, individual's getting ready for doing something easily as a result of cognitive and behavioral struggle (MEB, 2005, p. 174). Geographical skills are the ones that can be developed by using geography science and consciousness. Thus, uniqueness with other main and core courses is created.

Geography schedule, contrary to previous one, is process-based instead of outcome-based, that is, it has a skill-education-based approach. In order to get this result, eight geographical skills have been stated in the study. This is one the most significant properties of secondary geography education program compared to the previous one (Artvinli, 2009, p. 51).

Education program put forward the necessity of development in harmony with individual, social and earth-scale innovations and developments through the skills students are to have (Tuna & İncekara, 2010 p. 263). In the program, sensitivity to human-nature interaction, development in harmony with the nature, importance of Turkey's geopolitical importance, sensitivity to uniqueness of homeland and national values have been accepted as a principle (Karabağ, 2010, p. 89). On the other hand, for development of geography consciousness, the program changes according to grade levels and student ages (Ünlü, 2008a, p.74). For that reason, acquisitions' knowledge, analysis, synthesis levels, and evaluation-assessment aspects in the program are different (Ünlü, 2008b, p. 276).

Depending on life-long learning, it is aimed that in development of geographical consciousness and skills, the students should have strong view of life in individual and social life. For that, the students are to learn basic educational skills and geographical skills and apply them. Eight geographical skills taking place GTP and their basic properties have been explained below.

Skills and Their Properties

In today's education philosophy, finding, using, and structuring the knowledge has been accepted instead of getting it as it is. All approaches on curriculum development have been done by this view. One of the main elements to be acquired by the students as a necessity of new approach in education is skills. It is vital for them to acquire these skills taking place all educational programs since they will need them in their livings, occupations, and future. A skill-based structure is applied in geography teaching program. Therefore, the acquisitions in geography lesson are to detect and organize activities' contents which will enable students to have these skills. In other words, the goal of geography education is not to convey content of acquisitions through activities, but to enable students to own geographical skills by organizing activities in the light of acquisitions. That is, acquisitions are not a goal but a tool for enabling student to have geographical skills (Artvinli, 2010, p. 188).

Joint skills of educational programs are; Critical Thinking Skill, Creative Thinking Skill, Communication and Empathy Skill, Problem-Solving Skill, Deciding Skill, Using Information Technology Skill, Using Turkish correctly, nicely and effectively skill and Entrepreneur Skill and these are joint skill of GTP (MEB, 2005, p. 25). The skills that used in other fields can be listed as; field observations, library research techniques, and computer analysis techniques. These skills are perceived by the geography scholars as a better understanding of a spatial problem's different aspects and structures and finding answers to them (Taş, 2008, p. 46). Thanks to geographical skills, the students become geographical knowledge equipped citizens (Naylor & Diem, 2001, p. 204)

The studies on skill in geography teaching have been accelerated especially in 1960s and those which are considered to be used have been tried to be listed hierarchically. For that reason, the researchers in the USA and England started to do research and applications on geographical skills.

Geographical skill has been a constant-developing process. As a result of studies, new concepts and skills have revealed (Üker, 2009, p. 30). So, National Geography Standards which has an important role in geography education in the USA has detected the skills which students are to have at the end of 4th, 8th, and 12th grade. According to this, geographical skill levels and perceptions have been organized as five topics even if it changes depending on grade and age levels. These are; the ability to ask geographical questions, to get geographical questions, to get geographical knowledge, to organize geographical knowledge, to analyze geographical knowledge, and to answer geographical questions (Geography Education Standards Project [GESP], 1994, p. 42-57).

In geography course teaching program, the basic geographical skills stemming from geography lesson is listed, so map skill, observation skill, field study skill, geographical investigation skill, preparing and discussing table, graph and diagram skill, time perception skill, change and continuity perception skill, and proof using skill (MEB, 2005, p. 19). After geography teaching program focused on skill-based education, the researchers have made course designs aiming to develop geographical skills and these studies, in recent years, focus on geographical skills. Thus, Artvinli (2010) and Demirci (2006) focused in their studies on how to develop and use geographical investigation skill in geography courses. We can briefly explain these eight skills taking place in the program so.

Map Skills : Map studies play a significant role in the teaching of geography. In the distribution of geographic events and concepts maps are definitely benefitted either in field studies or in the classroom atmosphere. The fact that maps are easily found led them to be used commonly in a wide range. In the map study skills part of the book called *Primary Geography Handbook that was published by England Geographic Society Bridge* (2010), states in the introduction part that “It is essential to state that to visit and provide others with knowledge without any delay is so crucial for all of us and to succeed in this to make maps and use them.” (Bridge, 2010, p. 105 cited in Halocha, 2011, p. 61). As a matter of fact it can be obviously seen that maps are not only used in the classroom but also in daily life, in the news, in magazines, newspapers etc.

The map skills organized in eight phases and in five different age groups in different ways at primary and secondary education levels. These are position and orientation skills, defining the map symbols

skills, determining the scale, to be able to define the map types, the skill of receiving the purpose of the map, defining the map styles, to be able to draw maps, to be able to read maps and to be able to relate the maps with events (Catling, 1991, p. 186-187).

Map study in Foley and Janikoun is a leading geographic skill and it is only one skill among many geographic skills. Catling organized the features of map skills in eight phases and in five different age groups in different ways. These are determining the position, reading the symbols, receiving the distance, determining the scale, knowing the map types, drawing maps, using the map, and map knowledge (Foley & Janikoun, 1996, s. 99).

Observation Skills: Making observation (investigating) is one of the methods that makes the learning easier in learning by getting involved in learning. By the use of observation students explain and investigate the reasons and the results of the events and the concepts with a geographic view and guess their possible results. They learn to put forward the similar and different dimensions of the events by establishing relations between the similar events. They improve behaviors towards what to do when they experience similar events or the same event.

Field Studies: It is also expressed as observational method. It is one of the inevitable applied methods in geography which has a significant role in secondary education (Garipagaoglu, 2001, p. 14). Geographical Research studies must be used in each phase of education. But the development and learning levels of students should be taken into consideration and discussed and the details about the concepts should accordingly be determined (Balci, 2011, 2284). Because field trips contain geographic activities that take place out of the classroom. Field as the lab for geography is the place for students' experimental applications. By this way students get the opportunity to use and make observations and application with their acquired knowledge during the courses. It is not necessary that field trips should be along faraway places. Possible places can be school garden, park, market areas, shopping centers that contain natural and human features.

Geographic Investigation Skill: Geographic investigation is one of the basic skills that is given through the teaching of geography science. It can be defined as handling the events and objects in the environments according to the fundamental perspectives of geography science, explaining and developing solutions and suggestions for the problems with the methods and techniques used

by geography (Demirci, 2006, p. 64). By using a good geography teaching and investigation process students are encouraged to learn about physical and human places and their relations. This skill aims to encourage students about asking questions about their knowledge and data bases and giving replies to them. As this skill gets improved students may go through a more lively investigation process as improving hypothesis and testing level. Hence to improve “geographic investigation” skill of students, they should be provided with the questions towards teaching the phases defined in the curriculum as “what, where, when, why, how, who” and such questions (Artvinli, 2010, p. 19).

Preparing and Commenting on Table, Graphs, and Diagrams: One of the shapes expressed by drawing commonly used in geography science is the graphs (Doğanay, 2002, p. 65). Explaining and preparing tables and graphs used either in the coursebooks or in daily life should be known as a skill among the basic skills. The activities that students can actualize actively behind the background of this skill expressed as GTP (MEB, 2005): suitable data selection and classification, forming tables, graphs and diagrams according to the data, using related photos and making connections, forming sections (plants, geomorphologic and geology sections,...), using tables, graphs and diagrams appropriately, interpreting tables, graphs and diagrams and making synthesis by comparing them.

Time Perception Skill: Events and concepts related to human and nature necessitate a particular time in the process of formation, development, and alterations. This period forms a system and a pattern through time and time perception occurs. In GTP (MEB, 2005), these sub categories were stated under time perception skill: geological processes, annual, seasonal and daily processes and time perception skill about historical processes ecological cycles.

Proof using Skill: Proofs belong to human processes related to geographic events and facts can be found primary, secondary, or directly in the field research trip. Using proofs in geography contains these: Using students’ fossils, stones, tectonics, climate,... etc. related to geological processes as an evident of a natural feature, using human features as historical, social, financial, and political events and facts as evidence. In the cases where proofs are not considerably and directly used, visual elements as photos, models, videos can be used as evidence.

Alteration and Perception of Sustainability: According to student centered approach in geography

education, the basic purpose is to help the students in gaining “a geographic conscious” about our country starting from their surrounding and the whole world by improving some geographic skills and providing them to be efficient citizens (MEB, 2005: p. 6).

With this purpose, in 2005 geography curriculum there are eight geographic skills as defined above. Hence, the aim of this study is to search at what level the geographic skills take place during the teaching and learning process. Although the geography curriculum is a skill-based program, the number of studies examining how the related skills can be improved and at what level they can be carried out is so limited. Because of this, other purpose of the study is to take attention to the fact that geography lessons should be organized in frame of geographic skills with students centered approach more than teacher centered programs.

Method

Research Model

This research is a descriptive survey model study through the perception of realization levels of geographic skills in secondary education geography lessons. To determine the realization of geographic skills single research model-development research design is used among survey models in the teaching process beginning from 9th grade to the end of 12th grade.

9th grade students are considered not to have these skills. 12th grade students are considered to acquire geographic skills. In this way, the realization level of geographic skills in the first and the last phases of secondary education has been put forth.

Study Area and Sampling

In order to better understand the realization levels at secondary level, the research was carried out on 9th grades which is the first phase secondary education and 12th grades, the last phase of secondary education. The study area of the research comprises the students of Atakent High school at Ümraniye District, Namık Kemal High School and Private Ümraniye İrfan High School dependent to İstanbul National Educational Directorate in 2010-2011 academic year. Sampling of the study involves 83 students at 9th grades and 83 students at 12th grades, totally 166 students. The schools chosen from the universe as sampling were determined through easy reachable sampling.

Data Gathering Tool

To collect data in the research with a wide literature survey related to geographic skills and former academic studies were examined and a measurement and evaluation form was developed by the researcher and applied to the sampling group. The form including 7 questions was used as data gathering tool in the research.

Data Analysis

Measurement and evaluation form that was prepared according to general survey method was applied over 166 sampling students. 8 questions or a group of questions; each one expressing a skill was asked. To measure the acquisition level of these skills the same questions were applied to 9th grades first then the 12th grades. The gathered findings were analyzed and solved in SPSS software. Frequency and percentages were determined and results were reached.

Results

It is very significant to perform the geographical skills for the students. In this study, the realization level of geographic skills was tried to be measured by the measurement and evaluation form (ÖDF). This form (ÖDF) was applied over 83 students from 9th grades. The study was planned considering the hypothesis that these students did not have those skills. Even they have some geographical skills they acquired in their primary Social Studies courses, they are at different levels. At 12th grades 83 students were applied the same ÖDF form. In practice, the study was applied with the consideration and hypothesis that these skills were improved in these students. Each question in ÖDF was designed to reflect one skill.

Conclusion and Discussion

According to the results of the findings it has been found out that the realization level of 12th grades is more than 9th grades realization level.

Field research trip or observational skill could not be put in practice due to the regulations at schools. It should be seen as a major disadvantage not to acquire skills for the students about field trips which are the fundamental skills in geography.

The realization level of map skill which is among the fundamental geographical skills at 9th grades

more than at 12th grades can be explained as the map based acquisitions at 9th grades are more intensively studied. But, although map based topics are studied at more levels in other class levels except 12th grades level, this can be explained as there is a distribution problem in general at class levels related to map skills. This condition may lead to the termination of map skills without adopted by the graduated students from the high schools. Maps are not only most important tools of geography, but also one of the fundamental needs that can be met in every area any time needs. This skill must be strengthen in the 12th grades, the last phase secondary education as well. Because the lack of knowledge in this skill will cause to have less grasping levels of the geographic terms.

In the measurement of realization level of observational skill, reception of events and facts sub-skill was measured and it was seen that medium level was attained at last grades. It was obtained that the level of distinguishing the results of events and facts, investigating the reasons and making assumptions along their possible results was low.

When the realization level of geographic investigational skill was examined, it was determined that students realized the problem, they defined the problem, made analysis and made considerable decisions about the guesses related to future.

On the other hand in forming tables, graphs, and diagrams according to the data they were at medium level whereas they indicated a good level in forming profiles and making synthesis of the graphs.

When the students' time perception skill realization level was examined, geologic processes and ecological cycles they had were at medium level, whereas at annual, seasonal, and daily processes they were at good levels.

When acquisition level of evidence using skill by the students was examined; the use of a natural element belong to geological processes as fossils, stones or tectonics, etc level was at medium level; at climate processes and historical, social, financial, political events and facts they were at good level.

It was seen that the realization level of receiving alteration and sustainability level was at extremely good level in finding similarities and differences.

These differences that emerged in students' acquisition of geographic skills may be caused by various reasons First of all, gender, interest, liability to acquire these skills, readiness levels they had from

primary stage of the students may cause the acquisition of geographic skills at different levels. Also, the class teacher's teaching methods whether based on student-centered active learning techniques or teacher-centered passive techniques is one of the factors in the students' acquisition of geographic skills. Finally students' acquisition of geographic skills may be at different levels depending whether coursebook activities and text contents were prepared according to constructive or behavioral perspectives. Hence, commonly used school geography textbooks were examined to find out how geographic skills were affected by these textbooks by some researchers (Artvinli, 2009; Artvinli & Kaya, 2010; Taş, 2008; Tuna & İncekara, 2010). In one of these studies whether the activities in secondary education 11th grade geography coursebook are sufficient or not to have the students acquire necessary geographic skills in terms of quality, quantity, and method was stressed and it was concluded that secondary education 11th grade geography coursebook should be revised again with an approach taking geographic skills as basis (Artvinli & Kaya, 2010, p. 316).

It can be stated that the mentioned study findings have similar points with this study. In this study these points were focused: in having permanent skills as the curriculum suggests performance and project assignments may cause better effects.

Consequently increasing the number of performance and Project assignments in the coursebooks is so significant for efficient and permanent skill education. Also in the coursebooks the majority of the activities are not regarding *process evaluation* for skill improvement.

It is suggested that observational forms involving indicators reflecting the conditions and process evaluation stage where skills come out and attitude scales should be taken into consideration (Artvinli & Kaya, 2010, p. 317-318). Hence, to actualize geographic skills a higher level of awareness can be formed.

In increasing the grasping levels of geographic terms, map reading, using compass and increasing the rate of excursions and observational activities can be suggested (Balci, 2010, p. 375). For the skills with a less percentage, annual plans should be prepared more carefully. Prepared coursebooks should be revised and evaluated in terms of activity and skill levels. In order to have the students acquire the geographic skills as field research skill which are not actually realized or with low realization levels encouraging and facilitating precautions can be taken.

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